

Dr. Gerhard Schrauzer tells possible harm of too much ascorbic acid (vitamin C)

January 29, 1971

A UCSD professor of chemistry warned today that the consumption of ascorbic acid, commonly called vitamin C, in excessive amounts over long periods of time may be potentially harmful to humans.

In the wake of recent nation-wide publicity given to the alleged desirability of heavy doses of vitamin C in fighting the common cold, Dr. Gerhard Schrauzer said he has accumulated further data supporting the theory that massive doses of ascorbic acid seriously alter the sensitive vitamin C regulating system of the body. Such alterations can cause dangerous deficiencies in vital functions of the body, he said, as soon as the administration of large amounts of ascorbic acid is stopped.

On the basis of reports in the scientific literature and his own case studies, Schrauzer recommended discontinuation of vitamin C overdosage.

"Excessive vitamin C intake provides no long-term protective effects, and may produce serious deficiency states," said Schrauzer. "Such overdoses may create even greater susceptibility to the common cold and other infections if the user suddenly terminates such overdoses."

Two independent reports covering research in the period 1958-60 clearly spell out the danger of ascorbic acid overdosage, the UCSD chemist said. In one project, Dr. T. Gordonoff, of Bern, Switzerland, fed a group of guinea pigs a normal diet, and injected another group with one-half a gram of ascorbic acid per day. After four weeks, both groups were put on a diet which was deficient in vitamin C.

"The animals which followed a normal diet fell prey to scurvy and died after 38.6 days," said Schrauzer. "The other group, which had received massive doses of vitamin C followed by no vitamin C at all, contracted scurvy and died after 24.88 days."

Investigators in Russia, in a similar research project, reported similar findings, he said.

"In this case, animals which received overdoses contracted more severe symptom of scurvy, and died sooner, than the untreated animals, once both groups were denied all vitamin C," he said.

Findings of these European investigators have an interesting corollary in recent history, Schrauzer pointed out.

"During the siege of Leningrad in World War II, a large proportion of the inhabitants of that city were subject to very poor nutritional conditions," he explained. "Russian doctors were puzzled to find that among patients who had severe symptoms of scurvy was a disproportionately large number who had received excessive doses of vitamin C prior to the siege."

Schrauzer said he had just learned of a case involving a professor on the faculty of a well-known eastern university which appears to parallel the "Leningrad syndrome" and the findings of the European investigators.

"This professor took one gram of ascorbic acid a day over a period of several years," he said. "This is more than 10 times the dosage recommended in a normal diet. He then left the United States for a sabbatical leave overseas, where he lived on a normal diet for a year. On returning to the United States, the professor consulted his dentist on a problem involving his gums, and the problem was diagnosed as scurvy."

People who switch suddenly to normal diets after an extended regimen of heavy vitamin C input "have an immediate reason for concern," said Schrauzer. "Such persons should taper off gradually rather than suddenly, avoiding heavy exercise and exhaustion of all kinds. And by all means, such persons should consult their doctors. No one should embark on a program of heavy vitamin C intake without checking with his physician, and no one should alter such a regimen without medical advice."

Schrauzer said he had been told of instances in which individuals were taking as much as 100 grams of ascorbic acid a day. This would be equivalent to about 7 tablespoons a day, he explained. Even one teaspoonful of ascorbic acid, he said, would be 100 times the daily recommended dose.

"The vitamin C regulating mechanism in such individuals, and even of others on lesser inputs, probably has undergone a severe change," Schrauzer warned. "They should see a doctor, and in light of the evidence developed by the European investigators they should be especially careful as they 'withdraw' from a program of overdosage."

Schrauzer said Gordonoff, the Swiss researcher, "concludes that patients who received vitamin C in excessive doses may be more vulnerable to certain infirmities than persons on normal diets if, for some reason, they suddenly cut their vitamin C intake drastically or end it altogether."

Gordonoff also concluded that administering large doses of vitamin C to aging persons may be inadvisable.

"Gordonoff reasoned," said Schrauzer, "that older people may absorb vitamins less well than younger persons. Or it may be that older people simply have a lower vitamin C requirement."

Although more research is needed on the whole subject, the probability is high that the findings of the Swiss and Russian investigators are correct, said Schrauzer.

Certain side effects are known to be related to high doses of ascorbic acid and vitamin C users should be aware of these, according to the UCSD chemist. These include temporary insomnia, restlessness, high blood pressure, nausea, headache and diarrhea. There is also the danger of kidney-stone formation. Some investigators have recommended the administration of ascorbic acid only before mid-day to prevent insomnia, according to Schrauzer.

Schrauzer said the heightened interest nation-wide in taking overdoses of vitamin C "could make a large number of people dependent on the intake of a chemical in their efforts to avoid the common cold. This could cause more harm than good in the long run."

Schrauzer is an internationally recognized chemist and has published numerous scientific papers in various fields of chemistry during the past 12 years, in learned journals both in the United States and abroad.

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